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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,071	12/30/2003	Jennifer Dean	145581-1	7947

43248 7590 10/20/2006

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EXAMINER

WOLLSCHLAGER, JEFFREY MICHAEL

ART UNIT PAPER NUMBER

1732

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/749,071

Applicant(s)

DEAN ET AL.

Examiner

Jeff Wollschlager

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

Applicant's amendment to the claims filed September 6, 2006 has been entered. Claims 1-6 and 8-21 are pending and currently under examination. Claim 7 has been cancelled. Claim 21 is new. Claims 1, 8, 11, 12, 16 and 17 are currently amended.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8-12, and 15- 21 are rejected under 35 U.S.C. 102(b) as being anticipated by La Casse et al. (U.S. Patent 5,877,254; issued March 2, 1999).

Regarding claim 1, La Casse et al. teach a method for making a fog resistant thermoplastic article comprising: exposing an aromatic thermoplastic polymer article to an aqueous environment sufficient to result in a fog resistant aromatic thermoplastic polymer article, wherein the fog resistant aromatic thermoplastic polymer article has a greater fog resistance when compared to the aromatic thermoplastic polymer article prior to exposing; and wherein the aromatic thermoplastic polymer article comprises a composition comprising an aromatic thermoplastic article and an ionic anti-fog additive (Abstract; col. 3, lines 30-60; col. 4, lines 42-61; col. 5, lines 6-56; col. 6, lines 8-15 and 39-67; col. 7, lines 1-2).

The examiner notes that the ionic anti-fog additive employed by LaCasse et al. is applied as a film or coating or may be used as a self-supporting article.

As to claim 2, the anti-fog composition taught by LaCasse et al. contains water (col. 6, lines 8-15) and is applied as a coating or film to the article (col. 7, lines 1-2). Additionally, the article is exposed to atmospheric conditions wherein the atmosphere inherently comprises a certain level of humidity. The broad recitation of exposing the article to an aqueous environment includes exposing the article to the atmosphere.

As to claims 3 and 4, LaCasse et al. teach the exposure to the aqueous environment is from 5 minutes to 24 hours (col. 5, lines 57-65) and exemplify a 30-minute exposure (col. 7, lines 1-2).

As to claim 5, LaCasse et al. disclose polyethylene terephthalate (col. 3, lines 52-58).

As to claim 6, LaCasse et al. disclose polycarbonate (col. 3, lines 52-58; col. 7, lines 1-2).

As to claim 8, LaCasse et al. teach the ionic anti-fog additive is a sulfonic acid salt (col. 5, lines 6-10).

As to claim 9 and 10, LaCasse et al. disclose the claimed sulfonic acid salts (col. 5, lines 11-30; col. 6, lines 39-53).

As to claim 15, LaCasse et al. disclose the composition may be employed as a film (Abstract) instead of a coating.

Regarding claim 17, La Casse et al. teach a method for making a fog resistant thermoplastic article comprising: exposing a thermoplastic article to an aqueous

environment sufficient to result in a fog resistant aromatic thermoplastic polymer article, wherein the fog resistant aromatic thermoplastic polymer article has a greater fog resistance when compared to the aromatic thermoplastic polymer article prior to exposing; and wherein the aromatic thermoplastic polymer article comprises a composition comprising polycarbonate, for example, and an ionic anti-fog additive (Abstract; col. 3, lines 30-60; col. 4, lines 42-61; col. 5, lines 6-56; col. 6, lines 8-15 and 39-67; col. 7, lines 1-2).

As to claim 18, LaCasse et al. disclose a fog resistant article prepared from the method of claim 1 (Abstract; col. 3, lines 30-60; col. 4, lines 42-61; col. 5, lines 6-56; col. 6, lines 8-15 and 39-67; col. 7, lines 1-2).

As to claim 20, LaCasse et al. disclose a fog resistant article prepared from the method of claim 17 (Abstract; col. 3, lines 30-60; col. 4, lines 42-61; col. 5, lines 6-56; col. 6, lines 8-15 and 39-67; col. 7, lines 1-2).

Regarding claim 21, LaCasse et al. teach a method for making a fog resistant thermoplastic article comprising: exposing an aromatic thermoplastic polymer article to an aqueous environment sufficient to result in a fog resistant aromatic thermoplastic polymer article, wherein the fog resistant aromatic thermoplastic polymer article has a greater fog resistance when compared to the aromatic thermoplastic polymer article prior to exposing; and wherein the aromatic thermoplastic polymer article comprises a composition comprising an aromatic thermoplastic article and an ionic or non-ionic anti-fog additive, wherein the aromatic thermoplastic polymer comprises,

Art Unit: 1732

support the position. Further, the examiner notes the definition of the word blend as provided by the American Heritage Dictionary of the English Language, Fourth Edition:

- TRANSITIVE VERB: **1.** To combine or mix so that the constituent parts are indistinguishable from one another: *"He has no difficulty blending his two writing careers: novels and films"* (Charles E. Claffey). **2.** To combine (varieties or grades) to obtain a mixture of a particular character, quality, or consistency: *blend tobaccos*.
- INTRANSITIVE VERB: **1.** To form a uniform mixture: *"The smoke blended easily into the odor of the other fumes"* (Norman Mailer). **2.** To become merged into one; unite. **3.** To create a harmonious effect or result: *picked a tie that blended with the jacket*. See synonyms at **mix**.
- NOUN: **1a.** The act of blending. **b.** Something, such as an effect or a product, that is created by blending: *"His face shows, as he stares at the fire, a blend of fastidiousness and intransigence"* (John Fowles). See synonyms at **mixture**. **2. Linguistics** A word produced by combining parts of other words, as *smog* from *smoke* and *fog*.

The aromatic thermoplastic polymer and anti-fog additive taught by LaCasse et al. are combined and become indistinguishable from each other and are merged into one, united. As such, LaCasse et al. blends.

As to claim 19, LaCasse et al. disclose a fog resistant article prepared from the method of claim 16 (claim 16 rejection above, Abstract; col. 3, lines 30-60; col. 4, lines 42-61; col. 5, lines 6-56; col. 6, lines 8-15 and 39-67; col. 7, lines 1-2).

Claims 11-14 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Tu et al. (U.S. Patent 3,933,407; issued January 20, 1976).

Art Unit: 1732

polyethylene terephthalate, for example. (Abstract; col. 3, lines 30-60; col. 4, lines 42-61; col. 5, lines 6-56; col. 6, lines 8-15 and 39-67; col. 7, lines 1-2)

As to claim 11, LaCasse et al. disclose the surfactant may be used in concentrations of about 10% to about 40% of total solids of the composition (col. 6, lines 28-31; col. 7, lines 1-17). Depending on the various uses of the anti-fog composition the amount of anti-fog additive will be present within the range of about 0.1 to about 10 weight %.

As to claim 12, LaCasse et al. disclose polyethylene glycol, polyethylene glycol/polypropylene copolymers, and mixtures thereof (col. 3, lines 43-45).

As to claim 16, LaCasse et al. disclose blending an aromatic thermoplastic polymer and an ionic or non-ionic anti-fog additive to form a blend; molding the blend to form a thermoplastic article; and exposing the thermoplastic article to an aqueous environment. Specifically, LaCasse et al. take the combined/blended substrate and applied anti-fog additive and subsequently mold/thermoform/shape the blend/combination into an article (Abstract) without a loss of properties. The examiner further notes that LaCasse et al. disclose different effects for different types and lengths of exposure (e.g. no loss of resistance for high humidity vapor exposure versus some loss of resistance for immersion exposure, see Example 1). The examiner recognizes that all of the claimed effects are not positively stated by the reference. Note however, that the reference teaches all of the claimed ingredients, process steps, and process conditions and thus, the claimed effects would necessarily be achieved. If it is Applicant's position that this would not be the case evidence needs to be presented to

Regarding claim 21, Tu et al. teach a method for making a fog resistant thermoplastic article comprising: exposing an aromatic thermoplastic polymer article to an aqueous environment sufficient to result in a fog resistant aromatic thermoplastic polymer article, wherein the fog resistant aromatic thermoplastic polymer article has a greater fog resistance when compared to the aromatic thermoplastic polymer article prior to exposing; and wherein the aromatic thermoplastic polymer article comprises a composition comprising an aromatic thermoplastic article and an ionic or non-ionic anti-fog additive, wherein the aromatic thermoplastic polymer comprises, polyethylene terephthalate, for example (Abstract; col. 8, lines 41-60; col. 11, lines 22-67; Tables I, II, III).

As to claim 11, Tu et al. employ about 1 weight % of the anti-fog additive (col. 10, lines 39-67; col. 11, lines 1-67; Table I, II, III) and that the additive can be employed in various applications (col. 8, lines 10-67) at various thicknesses.

As to claim 12, Tu et al. disclose polysiloxane-polyether copolymers (col. 4, lines 12-col. 8, line 7).

As to claims 13 and 14, Tu et al. disclose the claimed copolymers (broadly col. 4, line 12- col. 8, line 7; particularly note: col. 4, lines 12-54; col. 7, lines 1-57 and even further combined with other crosslinking materials such as ethylene glycol, divinyl ether (col. 7, lines 59-65)).

Claims 16, 19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi (U.S. Patent 5,910,540; issued June 8, 1999) as evidenced by Edlein et



Art Unit: 1732

al. (U.S. Patent 6,677,014; priority September 28, 1999) and (Lopata et al. U.S. Patent 5,487,920; issued January 30, 1996).

Regarding claim 21, Takahashi teach a method for making a fog resistant thermoplastic article comprising: exposing an aromatic thermoplastic polymer article to an aqueous environment sufficient to result in a fog resistant aromatic thermoplastic polymer article, wherein the fog resistant aromatic thermoplastic polymer article has a greater fog resistance when compared to the aromatic thermoplastic polymer article prior to exposing; and wherein the aromatic thermoplastic polymer article comprises a composition comprising an aromatic thermoplastic article and an ionic or non-ionic anti-fog additive, wherein the aromatic thermoplastic polymer comprises, polyphenylene ether and aromatic polycarbonate, for example (col. 1, lines 7-17; col. 2, lines 15-23; col. 10, lines 10-18; col. 14, lines 60-67; col. 16, lines 9-11). It is noted that the materials employed contain residual levels of water and that exposure to air is an exposure to an aqueous environment. The examiner recognizes that all of the claimed effects are not positively stated by the reference. Note however, that the reference teaches all of the claimed ingredients, process steps, and process conditions and thus, the claimed effects would necessarily be achieved. As evidence, Edlein et al. disclose that antifog agents employed during the processing of plastics migrate to the surface of the film once the article is formed and raise the surface tension of the film and that as a result, formation of a fog is prevented (col. 1, lines 30-45) and Lopata et al. demonstrate that washing the article produced with an anti-fog coating enhances the anti-fog characteristics (col. 9, lines 48-55; Table 6).

Art Unit: 1732

Regarding claim 16, Takahashi disclose blending an aromatic thermoplastic polymer and an ionic or non-ionic anti-fog additive to form a blend; molding the blend to form a thermoplastic article; and exposing the thermoplastic article to an aqueous environment (col. 1, lines 7-17; col. 2, lines 15-23; col. 10, lines 10-18; col. 14, lines 60-67; col. 16, lines 9-11).

As to claim 19, Takashi discloses a product made by the method of claim 16.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 16, 19, and 21 are rejected under 35 U.S.C. 103(a) as being obvious over Takahashi (U.S. Patent 5,910,540; issued June 8, 1999) in view of Edlein et al. (U.S.

Patent 6,677,014; priority September 28, 1999) and (Lopata et al. U.S. Patent 5,487,920; issued January 30, 1996).

Regarding claim 21, Takahashi teaches the method of claim 21 as discussed in the 102(b) rejection above. However, in the alternative, Takashi teaches a method for making a fog resistant thermoplastic article comprising: exposing an aromatic thermoplastic polymer article to an aqueous environment sufficient to result in a fog resistant aromatic thermoplastic polymer article, wherein the fog resistant aromatic thermoplastic polymer article has a greater fog resistance when compared to the aromatic thermoplastic polymer article prior to exposing; and wherein the aromatic thermoplastic polymer article comprises a composition comprising an aromatic thermoplastic article and an ionic or non-ionic anti-fog additive, wherein the aromatic thermoplastic polymer comprises, polyphenylene ether, for example (col. 1, lines 7-17; col. 2, lines 15-23; col. 10, lines 10-18; col. 14, lines 60-67; col. 16, lines 9-11). Takahashi does not explicitly disclose the impact of the aqueous environment on the article.

However, Edlein et al. disclose that antifog agents employed during the processing of plastics migrate to the surface of the film once the article is formed and raise the surface tension of the film and that as a result, formation of a fog is prevented and that both dispersing and coating with anti-fog agents is conventional in the art (col. 1, lines 30-45) and Lopata et al. demonstrate that washing the article produced with an anti-fog coating of their invention in an aqueous environment enhances the anti-fog characteristics of the article (col. 9, lines 48-55; Table 6).

Art Unit: 1732

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to combine the teaching of Edlein et al. and the anti-fog agents and washing of Lopata et al. with the method of Takahashi for the purpose of producing a superior anti-fogging product in an art recognized equivalent manner.

Regarding claim 16, Takahashi disclose blending an aromatic thermoplastic polymer and an ionic or non-ionic anti-fog additive to form a blend; molding the blend to form a thermoplastic article; and exposing the thermoplastic article to an aqueous environment (col. 1, lines 7-17; col. 2, lines 15-23; col. 10, lines 10-18; col. 14, lines 60-67; col. 16, lines 9-11).

As to claim 19, Takashi discloses a product made by the method of claim 16.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-6 and 8-21 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

All claims are rejected:

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Scholz et al. (U.S. Patent 6,040,053) disclose a highly pertinent method: see Abstract, col. 3, lines 58-63; col. 6, lines 1-62; col. 9, lines 12-15; col. 16, lines 42;60; col. 17, lines 26-44; col. 21, lines 49-59.

Mimura et al. (U.S. Patent 5,002,825) disclose a highly pertinent method: see Abstract; col. 1, lines 6-11 and 65-67; col. 2, lines 4-27; col. 4, lines 56-62; col. 5, lines 1-63).

Schottman et al. (U.S. Patent 7,008,979) disclose a highly pertinent method: see Abstract; col. 1, lines 14-20; col. 7, lines 45-55; col. 8, lines 64-67; col. 10, lines 31-39; col. 17, line 42-col. 18, lines 20; col. 26, lines 5-13;

Oda et al (U.S. Patent Application Publication 2003/0109660); paragraph [0196].

Sakashita et al. (U.S. Patent 5,306,801) disclose as conventional adding anti-fog agents at the same time to become an integral part with the other raw materials (col. 11, lines 11-22)

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1732

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Wollschlager whose telephone number is 571-272-8937. The examiner can normally be reached on Monday - Thursday 7:00 - 4:45, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Art Unit: 1732

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JW

Jeff Wollschlager  
Examiner  
Art Unit 1732

October 14, 2006

  
CHRISTINA JOHNSON  
PRIMARY EXAMINER  
10/16/06